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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/609,822	07/03/2000	Jin-gyo Seo	1293.1076D/STB	2532

21171 7590 07/07/2003

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EXAMINER

BATTAGLIA, MICHAEL V

ART UNIT	PAPER NUMBER
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2653

8

DATE MAILED: 07/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/609,822

Applicant(s)

SEO ET AL.

Examiner

Michael V Battaglia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-26 and 28-33 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 19-26 and 28-33 is/are rejected.
- 7) ☒ Claim(s) 32 and 33 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07/03/2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8-10.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the varied falling edge of the first pulse (claims 29, 32, and 33) and the varied rising edge of the last pulse (claim 30) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: On page 3, line 6, the examiner states "if"; the examiner suggests replacing with -of-. Appropriate correction is required.

Claim Objections

4. Claims 32 and 33 are objected to because of the following informalities: The applicant states "a optical recording"; the examiner suggests replacing with -an optical recording-. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 19 and 28-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshitaka Sakaue et al (hereafter Sakaue) (US 5,745,467).

In regard to claim 19, Sakaue discloses an adaptive writing circuit for writing input data on an optical recording medium using a write pulse for a light source (Fig. 3) and whose waveform comprises a first pulse, a last pulse and a multi-pulse train (Fig. 14-15). The adaptive writing circuit comprises a discriminator to discriminate a magnitude of the present mark of the input data and magnitudes of the leading and/or trailing spaces of the present mark (Fig. 11, elements 8 and 11), a generator to control the waveform of the write pulse in accordance with the magnitude of the present mark of the input data and the magnitudes of the leading and/or trailing spaces to generate an adaptive write pulse (Fig. 11, elements 2, 4, 6, 13, 14, 16, 17, 19, 20, 22, 23, 26, and 28), and a driver to drive the light source by converting the adaptive write pulse into a current signal in accordance with driving power levels for respective channels for the adaptive write pulse (Fig. 3, element 64).

In regard to claims 28-31, Sakaue discloses a generator that generates pulse width data by varying the rising and falling edges of the first pulse in accordance with the magnitudes of the leading space and the present mark and by varying the rising and falling edges of the last pulse in accordance with the magnitudes of the present mark and the trailing space (Fig. 14-15 and Fig. 11, elements 2, 4, 6, 13, 14, 16, 17, 19, 20, 22, 23, 26, and 28).

In regard to claim 32, Sakaue discloses an adaptive writing circuit for writing input data to an optical recording medium using a write pulse for a light source (Fig. 3) and whose waveform includes a first pulse, a last pulse and a multi-pulse train (Fig. 14-15), comprising: a generator to

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generate an adaptive write pulse by varying a falling edge of the first pulse in accordance with a magnitude of a leading space and a magnitude of the present mark, and varying a falling edge of the second pulse in accordance with the magnitude of a trailing space and the magnitude of the present mark (Fig. 14-15 and Fig. 11, elements 2, 4, 6, 13, 14, 16, 17, 19, 20, 22, 23, 26, and 28) and a driver to drive the light source according to the adaptive write pulse (Fig. 3, element 64).

In regard to claim 33, Sakaue discloses an adaptive write pulse generating circuit, the adaptive write pulse being used for writing input data to an optical recording medium (Fig. 3), comprising: a write pulse inputting unit inputting a write pulse, the write pulse including a first pulse, a last pulse and a multi-pulse train (Fig. 11, elements 2, 4, and 6); a generator generating the adaptive write pulse by varying a falling edge of the first pulse in accordance with a magnitude of a leading space and a magnitude of a present mark, and varying a falling edge of the second pulse in accordance with a magnitude of a trailing space and the magnitude of the present mark (Fig. 14-15 and Fig. 11, elements 13, 14, 16, 17, 19, 20, 22, 23, 26, and 28); and an outputting unit to output the generated adaptive write pulse (Fig. 11, element 35).

6. Claims 19-22 and 24-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Masaaki Hara (hereafter Hara) (US 6,044,055).

In regard to claim 19, Hara discloses an adaptive writing circuit for writing input data on an optical recording medium using a write pulse for a light source (Col. 2, lines 26-28 and Col. 5, line 14) and whose waveform comprises a first pulse, a last pulse and a multi-pulse train (Col. 5, line 15). The adaptive writing circuit comprises a discriminator to discriminate a magnitude of the present mark of the input data and magnitudes of the leading and/or trailing spaces of the present mark in the form of a RAM (random access memory) (Fig. 7, element 15) that discriminates the

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input data according to the magnitudes of marks and spaces in the same fashion as the discriminator shown in prior art (Fig. 4, element 104), a generator to control the waveform of the write pulse in accordance with the magnitude of the present mark of the input data and the magnitudes of the leading and/or trailing spaces to generate an adaptive write pulse (Fig. 7, elements 15-21), and a driver to drive the light source by converting the adaptive write pulse into a current signal in accordance with driving power levels for respective channels for the adaptive write pulse (Col. 2, lines 26-28 and Col. 1, lines 40-44).

In regard to claim 20, Hara discloses a generator that includes a write waveform controller to generate pulse width data to vary a width of the first pulse in accordance with the magnitude of the leading space and the magnitude of the present mark and to vary a width of the last pulse in accordance with the magnitude of the present mark and the magnitude of the trailing space (Figure 7, elements 15 and 17-20) and a write pulse generator to generate the adaptive write pulse in accordance with the pulse width data (Figure 7, elements 16 and 21).

In regard to claim 21, Hara discloses a write waveform controller that comprises a memory in which the pulse width data of the first and/or last pulses of the write pulse waveform are stored, by grouping the magnitude of the present mark and the magnitudes of the leading and/or trailing spaces, into groups based upon the magnitudes of the marks and spaces (Fig. 7, element 15).

In regard to claim 22, Hara discloses an adaptive write circuit that comprises a microcomputer to initialize the write waveform controller and control the pulse width data stored in the memory to be updated in accordance with write conditions (Fig. 7, element 11).

In regard to claim 24, Hara discloses an adaptive writing circuit, wherein the memory (Fig. 4, element 15) stores the pulse width data of the first and/or last pulses of the write pulse waveform for respective zones on the optical recording medium (Col. 7, lines 46-51 and Col. 10, lines 65-68).

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In regard to claim 25, Hara discloses light power for a predetermined one of channels of the adaptive write pulse that is applied during a period corresponding to a varied width of the first pulse and during a period corresponding to a varied width of the last pulse (Col. 1, lines 37-45).

In regard to claim 26, Hara discloses light power for the predetermined channel that is a read power or a write power (Col. 1, lines 37-45).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 23 rejected under 35 U.S.C. 103(a) as being unpatentable over Hara in view of Nishiuchi et al. (hereafter Nishiuchi) (US 5,568,461). As noted above, the Hara reference discloses an adaptive writing circuit comprising a discriminator, a driver, a write pulse generator, and a write waveform controller that comprises a memory that stores pulse width data of the first and/or last pulses by grouping the magnitudes of the pulses as disclosed in claims 19, 20, and 21. Hara does not disclose a memory that stores the pulse width data of the first and/or last pulses of a write pulse waveform depending on whether the input data is in a land track or a groove track.

Nishiuchi discloses an optical information recording apparatus that includes using memory to store information for pulse patterns optimal for each of a land track and a groove track (Col. 14, lines 7-13 and 33-40) and teaches that using recording signals optimized for writing on a land or a groove will greatly reduce error (Col. 2, lines 35-39). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the adaptive writing

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circuit of Hara with the memory that stores the pulse width data of the first and/or last pulses of a write pulse waveform depending on whether the input data is in a land track or a groove track of Nishiuchi.


The rationale is as follows: One of ordinary skill in the art at the time of the invention would have been motivated to reduce errors caused by writing to land tracks and groove tracks in the same manner. Nishiuchi teaches that memory can be used to store optimal pulse patterns specific to land tracks and groove tracks.

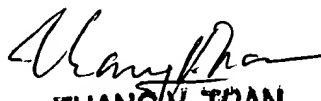
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael V. Battaglia whose telephone number is (703) 305-4534. The examiner can normally be reached on 5-4/9 Plan with 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R Korzuch can be reached on (703) 305-6137. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 746-9911 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.


Michael V. Battaglia
June 27, 2003


THANG W. TRAN
PRIMARY EXAMINER